

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International-Bureau



(43) International Publication Date
4 September 2003 (04.09.2003)

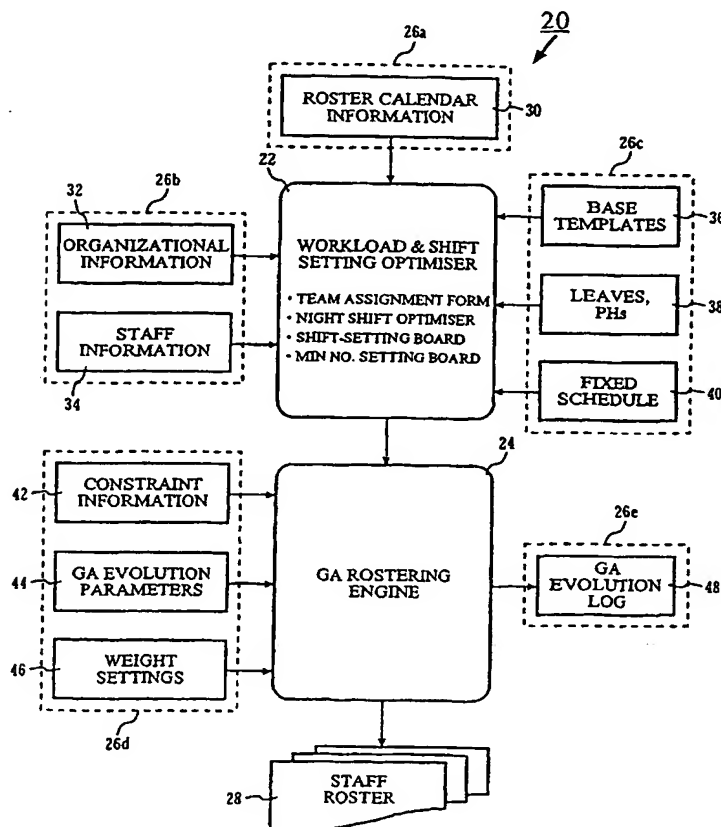
PCT

(10) International Publication Number
WO 03/073342 A1

- (51) International Patent Classification⁷: G06F 17/60, [SG/SG]; Blk 867 Yishun Street 81 #10-29, Singapore 760867 (SG).
G06N 3/12
- (21) International Application Number: PCT/SG03/00010 (74) Agent: LAWRENCE Y D HO & ASSOCIATES PTE LTD; 30 Bideford Road #07-01, Thongsia Building, Singapore 229922 (SG).
- (22) International Filing Date: 20 January 2003 (20.01.2003)
- (25) Filing Language: English (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (26) Publication Language: English (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
- (30) Priority Data: 200201146-8 27 February 2002 (27.02.2002) SG
- (71) Applicant (*for all designated States except US*): NANYANG POLYTECHNIC [SG/SG]; 180 Ang Mo Koa Avenue 8, Singapore 569830 (SG).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): ZHU, Chun, Bao

[Continued on next page]

(54) Title: SYSTEM, METHOD AND PRODUCT FOR ROSTERING USING GENETIC ALGORITHMS



(57) Abstract: A genetic algorithms rostering system (20) with a workload and shift setting optimizer (22), a GA rostering engine (24) and a storage medium (26) is described. The GA rostering engine (24) dynamically shifts one or more shift lists of an initial shift list matrix based upon a shifting factor associated with each of the shift lists. Thereafter, the GA rostering engine (24) obtains an intermediate shift list matrix that is then fine-tuned by swapping individual shifts for each of the shift lists in the intermediate shift list matrix. A swapping factor for fine-tuning is associated with each of the shift lists and indicates a gene group with two or more genes. Each of the genes in the gene group is associated with an individual shift. Output of the rostering system (20) are rosters (28) represented in a matrix form.

WO 03/073342 A1